

Art Unit: 1617

It would have been obvious to one of ordinary skill in the art at the time the invention was made to treat stroke patients employing a combination of phosphodiesterase inhibitors and training.


One of ordinary skill in the art would have been motivated to treat stroke patients employing a combination of phosphodiesterase inhibitors and training because both PDE inhibitors and cognitive training are known to be useful in method of treating stroke. One of ordinary skill in the art would have reasonably expected a combination of training and PDE inhibitors to be useful in treating stroke patients.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mojdeh Bahar whose telephone number is (703) 305-1007. The examiner can normally be reached on (703) 305-1007 from 8:30 a.m. to 6:30 p.m. Monday, Tuesday, Thursday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on (703) 305-1877. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Mojdeh Bahar  
Patent Examiner  
April 29, 2003

  
SREENI PADMANABHAN  
PRIMARY EXAMINER 5/2/03

PTO-1449 REPRODUCED		ATTORNEY DOCKET NO. 1314.2004-001		APPLICATION NO. 09/927,914	
SUPPLEMENTAL INFORMATION DISCLOSURE CITATION IN AN APPLICATION				APPLICANT Timothy P. Tully et al.	
August 29, 2002				FILING DATE August 10, 2001	
(Use several sheets if necessary)				GROUP 1617	
U.S. PATENT DOCUMENTS					
DOCUMENT NUMBER		ISSUE DATE / PUBLICATION DATE			
FOREIGN PATENT DOCUMENTS					
DOCUMENT NUMBER		DATE		COUNTRY	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)					
AV5		Milner, B. et al., "Cognitive Neuroscience and the Study of Memory," Neuron, 20(3):445-468 (1998).			
AW5		Bevilaqua, L. et al., "Drugs Acting Upon the Cyclic Adenosine Monophosphate/Protein Kinase A Signalling Pathway Modulate Memory Consolidation When Given Late After Training into Rat Hippocampus but not Amygdala," Behavioural Pharmacology, 8(4):331-338 (1997).			
EXAMINER		DATE CONSIDERED			
[Signature]		09/24/02			

PTO-1449 REPRODUCED

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09/927,914INFORMATION DISCLOSURE CITATION  
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February 2, 2002

(Use several sheets if necessary)

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Timothy P. Tully and Filippo CavalieriFILING DATE  
August 10, 2001GROUP  
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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AW3	Silva, A.J. et al., "CREB and Memory," <i>Annu. Rev. Neurosci.</i> , 21:127-148 (1998).
AX3	Bourtchouladze, R. et al., "Different Training Procedures Recruit Either One or Two Critical Periods for Contextual Memory Consolidation, Each of Which Requires Protein Synthesis and PKA," <i>Learning &amp; Memory</i> , 5:365-374 (1998).
AY3	Yin, J.C.P. et al., "Induction of a Dominant Negative CREB Transgene Specifically Blocks Long-Term Memory in <i>Drosophila</i> ," <i>Cell</i> , 79:49-58 (1994).
AZ3	Yin, J.C.P. et al., "CREB as a Memory Modulator: Induced Expression of a dCREB2 Activator Isoform Enhances Long-Term Memory in <i>Drosophila</i> ," <i>Cell</i> , 81:107-115 (1995).
AR4	Josselyn, S.A. et al., "Overexpression of CREB in the Amygdala Facilitates the Formation of Long-Term Memory Measured with Fear Potentiated Startle in Rats," <i>Society for Neuroscience</i> , Vol. 24, Abstract 365.10 (1998).
AS4	Kogan, J.H. et al., "Spaced Training Induces Normal Long-Term Memory in CREB Mutant Mice," <i>Current Biology</i> , 7:1-11 (1996).
AT4	Bartsch, D. et al., "Aplysia CREB2 Represses Long-Term Facilitation: Relief of Repression Converts Transient Facilitation into Long-Term Functional and Structural Change," <i>Cell</i> , 83:979-992 (1995).
AU4	Pedreira, M.E., "Massed and Spaced Training Build Up Different Components of Long-Term Habituation in the Crab <i>Chasmagnathus</i> ," <i>Animal Learning &amp; Behavior</i> , 26(3):34-43 (1998).
AV4	Bourtchouladze, R. et al., "Deficient Long-Term Memory in Mice with a Targeted Mutation of the cAMP-Responsive Element-Binding Protein," <i>Cell</i> , 79:59-68 (1994).
AW4	Tully, T. et al., "Genetic Dissection of Consolidated Memory in <i>Drosophila</i> ," <i>Cell</i> , 79:35-47 (1994).
AX4	Guzowski, J.F. and McGaugh, J.L., "Antisense Oligodeoxynucleotide-Mediated Disruption of Hippocampal cAMP Response Element Binding Protein Levels Impairs Consolidation of Memory for Water Maze Training," <i>Proc. Natl. Acad. Sci. USA</i> , 94:2693-2698 (1997).
AY4	Lamprecht, R. et al., "cAMP Response Element-Binding Protein in the Amygdala is Required for Long-but not Short-Term Conditioned Taste Aversion Memory," <i>The Journal of Neuroscience</i> , 17(21):8443-8450 (1997).
AZ4	Impey, S. et al., "Stimulation of cAMP Response Element (CRE)-Mediated Transcription During Contextual Learning," <i>Nature Neuroscience</i> , 1(7):595-601 (1998).

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Moore, A.N. et al., "Neuronal Activity Increases the Phosphorylation of the Transcription Factor cAMP Response Element-binding Protein (CREB) in Rat Hippocampus and Cortex," *The Journal of Biological Chemistry*, 271(24):14214-14220 (1996).

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Murphy, D.D. and Segal, M., "Morphological plasticity of Dendritic Spines in Central Neurons is Mediated by Activation of cAMP Response Element Binding Protein," *Proc. Natl. Acad. Sci. USA*, 94:1482-1487 (1997).

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Liu, F.C. and Graybiel, A.M., "Spatiotemporal Dynamics of CREB Phosphorylation: Transient Versus Sustained Phosphorylation in the Developing Striatum," *Neuron*, 17:1133-1144 (1996).

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Dubnau, J. and Tully, T., "Gene Discovery in Drosophila: New Insights for Learning and Memory," *Annu. Rev. Neurosci.*, 21:407-444 (1998).

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION YES NO

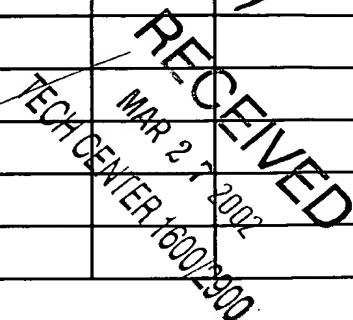
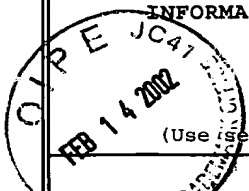
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ms	AU	Ikezu, T. et al., "Negative Transactivation of cAMP Response Element by Familial Alzheimer's Mutants of APP," <i>The EMBO Journal</i> , 15(10):2468-2475 (1996).
	AV	Sato, N. et al., "Elevated Amyloid $\beta$ Protein (1-40) Level Induces CREB Phosphorylation at Serine-133 via p44/42 MAP Kinase (Erk1/2)-Dependent Pathway in Rat Pheochromocytoma PC12 Cells," <i>Biochemical and Biophysical Research Communications</i> , 232:637-642 (1997).
	AW	Yamamoto-Sasaki, M. et al., "Impaired Phosphorylation of Cyclic AMP Response Element Binding Protein in the Hippocampus of Dementia of the Alzheimer Type," <i>Brain Research</i> , 824:300-303 (1999).
	AX	Blendy, J.A., "Effects of Kainic Acid Induced Seizures on Immediate Early Gene Expression in Mice with a Targeted Mutation of the CREB Gene," <i>Brain Research</i> , 681:8-14 (1995).
	AY	Tanaka, K. et al., "Temporal Profile of CREB Phosphorylation After Focal Ischemia in Rat Brain," <i>NeuroReport</i> , 10:2245-2250 (1999).
	AZ	Young, D. et al., "Environmental Enrichment Inhibits Spontaneous Apoptosis, Prevents Seizures and is Neuroprotective," <i>Nature Medicine</i> , 5(4):448-453 (1999).
ms	AR2	Pandey, S.C. et al., "Involvement of the Cyclic AMP-Responsive Element Binding Protein Gene Transcription Factor in Genetic Preference for Alcohol Drinking Behavior," <i>Alcohol. Clin. Exp. Res.</i> , 23(9):1425-1434 (1999).

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EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
MP	AA	5,929,223	27-JULY-1999	Tully et al.	536	23.5	
MA	AB	6,051,559	18-APR-2000	Tully et al.	514	44	
	AC						
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<b>FOREIGN PATENT DOCUMENTS</b>							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
MO	AL	WO 96/11270	18-APR-1996	PCT			
	AM						
	AN						
	AO						
	AP						
	AQ						
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
14	AR	Ahn, S. et al., "A Late Phase of Cerebellar Long-Term Depression Requires Activation of CaMKIV and CREB," <i>Neuron</i> , 23:559-568 (1999).					
1	AS	Pham, T.A. et al., "CRE-Mediated Gene Transcription in Neocortical Neuronal Plasticity during the Developmental Critical Period," <i>Neuron</i> , 22:63-72 (1999).					
W	AT	Glazewski, S. et al., "Impaired Experience-Dependent Plasticity in Barrel Cortex of Mice Lacking the Alpha and Delta Isoforms of CREB," <i>Cerebral Cortex</i> , 9:249-256 (1999).					
EXAMINER 				DATE CONSIDERED 04/29/02			

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